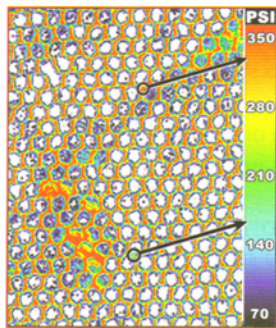


stress exerted on honeycomb cores, composite lay-ups and bonded surfaces within composite structures. By using Pressurex to see how surface stresses are distributed, an engineer can observe inconsistencies and misregistration in composite parts and thereby greatly reduce the yield defect rate. Other applications include determination of press planarity in lamination processes, monitoring of vacuum bagging pressures, confirmation of pressure uniformity on wound filaments parts, and calibration of tools and equipment.



Pressurex comes in the form of a thin plastic sheet or roll that can be cut to the required dimensions. When placed between

contacting or mating surfaces, the film instantaneously and permanently changes colour. This colour change is a direct result of the amount of pressure applied. Comparison of colour variations with a colour correlation chart (conceptually similar to interpreting litmus paper) can help determine precise pressure magnitude. Pressurex can detect pressures from 0.14 to 3.037 kg/cm². Depending on project requirements, additional evaluation and analysis can be performed with an optical analysis system available from Sensor Products Inc. In the aerospace industry, Pressurex has been used to determine the exact amount of pressure causing cracks in the inner spars of a helicopter's main rotor blade. A large sheet of Pressurex was inserted into the bonding tool, bagged up, and pressurized in the autoclave. When the film was removed, the exact amount of pressure causing the crack was determined.

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Sensor film for surface stress mapping

Pressurex® is a thin sensor film from Sensor Products Inc. that carefully maps and measures the amount of interfacial